

**REMARKS**

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, the pending claims herein have been revised in an effort to clarify the same. In this regard, the claimed process has been clarified to emphasize that at least two different melamine-containing flows originating from at least two different processes for the preparation of melamine from urea are brought together to form a mixture. See, for example, page 1, lines 6-10.

Claim 4 has been clarified so as to address the Examiner's ejection advanced under 35 USC §112, second paragraph. Withdrawal of such rejection is therefore in order.

The only issues remaining to be resolved are the Examiner's art-based rejections. In this regard, prior claims 1, 2, 5 and 6 attracted a rejection under 35 USC §102(b) as allegedly anticipated by Coufal (USP 6,355,797), while claims 1-13 attracted a rejection under 35 USC §103(a) as allegedly being unpatentable over Coufal in view of Van Hardeveld (USP 4,408,046).<sup>1</sup> As will become evident from the discussion below, the present invention is patentably distinguishable over the applied references of record.

**1. The Claimed Subject Matter**

Pending independent claim 1 relates to a process for the preparation of melamine which comprises mixing two melamine-containing flows that originate from ***at least two different processes for the preparation of melamine from urea.***

The term "from urea" has been included in the revised version of proposed claim 1 in order to make it clear that the presently claimed subject-matter deals with a

---

<sup>1</sup> Applicants note that the applied Coufal reference is the U.S. patent equivalent to WO 99/38852 cited in the subject application on page 2, lines 3-6.

chemical conversion (of urea to melamine) and not to one or more physical processes within one type of preparation. Consequently, the claim phrase "different processes for the preparation of melamine from urea" is intended to relate to subject matter wherein melamine-containing flows are obtained from two distinct preparation processes starting from urea, i.e. there have to be at least two processes starting from the initial reaction of converting urea into melamine that are different from one another in at least one parameter.

In contrast to the expressed language of the claims, the Examiner asserts on page 4 of the Official Action that the claimed process relates to "mixing two melamine containing flows". By making this statement, therefore, the Examiner clearly neglects the fact that the two melamine containing flows have to originate from two different melamine preparation processes **starting from urea**.

## 2. Patentability of the Claimed Subject Matter over the Applied References of Record

Coufal relates to a process for cooling liquid melamine by mixing it with solid melamine. No hint can be found in Coufal that the liquid melamine and the solid melamine originate from two different preparation processes. On the contrary, according to the preferred embodiment in Coufal as disclosed in column 2, line 42+, the solid melamine that is used for cooling the liquid melamine below the melting temperature is **recycled melamine** that is obtained by the **same process**. Especially the solid melamine is recycled into the fluidized-bed reactor that is used for cooling the liquid melamine.

Consequently, according to the teaching of Coufal, the liquid and the solid melamine are obtained from the same preparation process, and only **after** solidification of the liquid melamine is the solid melamine used by recycling into the system for cooling the liquid melamine. However, due to the fact that it is effectively the same

melamine since it originates from the same preparation process, the effect shown in the present application, for example in the experimental part of the application, cannot be achieved using the system of Coufal.

Furthermore, applicants note that Coufal is totally silent with respect to adjusting product properties of the final melamine by using two melamine flows originating from two different preparation processes. On the contrary, Coufal only deals with the cooling problem. Therefore, a person skilled in the art can neither find a hint in the cited prior art reference that by using two melamine-containing flows from two different preparation processes the desired final product properties can be adjusted or tailored, nor is the person skilled in the art motivated by the teaching of the cited prior art reference to use two melamine flows from two different preparation origins because the cited art clearly and unambiguously teaches that it is only necessary to contact liquid melamine with a solid which might, for example, not even be melamine, but can also be something else, like metals or glass, for example balls or rods of steel, in particular stainless steel, steal alloys or titanium alloys (see, column 2, lines 50-55 of Coufal) in order to start the fluidized bed process. It follows therefore that the teaching of Coufal only deals with the effect of a solid when cooling liquid melamine.

The secondary reference, Van Hardeveld, fails to cure the deficiencies of Coufal as noted above. In this regard, while Van Hardeveld also deals with the mixing of two melamine streams, like Coufal, each of the streams is the result of the *same* – not different – urea-conversion process for producing melamine.

Collectively, therefore, the applied references evidence that the art is cognizant of using only one melamine preparation process, whereas in the present claims it is necessary to start from at least two melamine-containing flows originating from at least two *different* processes for the preparation of melamine from urea.

**TJIOE et al**  
**Serial No. 10/522,418**  
March 21, 2007

Applicants further note that that the present application contains experimental data showing that melamine obtained by Examples 1 and 2 that both use melamine flows originated from two different preparation processes starting from urea result in a product having a more favorable particle size distribution and shorter dissolution times as compared to the comparative experiment where only one melamine-containing flow originating from a single preparation process was used. There is no hint in either applied reference of record that this beneficial result would or could be obtained when mixing two melamine-containing flows originating from two different preparation processes.

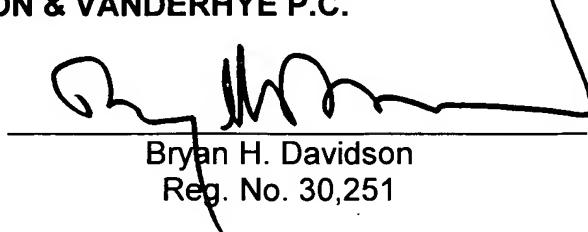
Therefore, in view of the above, the present invention as defined in independent claim 1 and the claims dependent therefrom is both novel and unobvious from Coufal alone or in combination with Van Hardeveld. Withdrawal of the rejections advanced under 35 USC §§102(b) and 103(a) is therefore in order.

Early receipt of the Official Allowance Notice is awaited.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:

  
Bryan H. Davidson  
Reg. No. 30,251

BHD:bcf  
901 North Glebe Road, 11<sup>th</sup> Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100